

Earth Observations from Space: Scientific Accomplishments at the Dawn of the Space Age

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Humans have long observed their environment as they sought for better, higher and more inclusive vantage points. This was true for individuals, coordinated networks, and remote observations from mountain tops, balloons, aircraft, and rockets. For over fifty years now, Earth-orbiting satellites have provided privileged perspectives and have supported the emergence of an integrated Earth system science that was not possible before. These observations have supported many fundamental scientific advances, greatly enhanced predictive and monitoring capabilities, and have been of immense social value. Satellite observations have literally transformed the way we view the planet and have provided unprecedented insight into how the Earth system functions. This paper presents historical perspectives on Earth observations, with special emphasis on the first thirty years of the space age.